

Date: Fri, 22 Jul 94 04:30:22 PDT
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: Bulk
Subject: Ham-Digital Digest V94 #245
To: Ham-Digital

Ham-Digital Digest Fri, 22 Jul 94 Volume 94 : Issue 245

Today's Topics:

 Baycomm (2 msgs)
 Can you use a BAYCOMM with a TRS-102?? (2 msgs)
 Current Capabilities of Packet?
 Has anyone done packet using Coherent?
 Need Mods For Tm-732
 Packet Ragchews on HF (2 msgs)
 Poor Man's Packet FTP site?
 RADIO BLOOD - EMPLOYMENT
 TNX for Baycomm info
 TS-50S function keys
 Wireless modem with GMSK and PLL

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 20 Jul 1994 22:27:08 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net
Subject: Baycomm
To: ham-digital@ucsd.edu

In article <30ifo6\$i7i@usenet.INS.CWRU.Edu>, da884@cleveland.Freenet.Edu
(David Toste) writes:

>JO> >ering it for the home station.
>JO>
>JO> I have no complaints except poor mailbox capability.
>JO>

>Says you, all depends on how you have things setup.
>I have my system setup so that when I plug things in and turn
>the rig on it goes out and gets my mail.

>Mind you I'm running JNOS. Also give SP a shoot.

I was refering to operation as a remote mailbox
with the software provided.

My friend has a TNC that I can log onto and leave
a message for her on. It stores in the TNC memory
without her computer even being on!

I would like to know more details about
the software you are using. I am running a
dedicated XT for packet (PS/2 Model 25).
I know its lame, but it is small and I got it free!
(My main computer is 486/33). Anyway, I
heard that JNOS and Baycomm will not work
on an XT. Is this true?

John - WB2YGF

Date: Wed, 20 Jul 1994 17:00:37 GMT
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!europa.eng.gtefsd.com!
news.ans.net!upsnews.ups.com!casey!nrd1pxm@network.ucsd.edu
Subject: Baycomm
To: ham-digital@ucsd.edu

I just got up on packet about 2 weeks ago using a Baycom and attending SW.
I have an Icom IC-2AT and had to make up a cable extension to the Baycom unit.
As soon as that was done, I was on the air! No problems with the SW or HW.
Print out the manual, it's very handy.

73

--

=====
Peter Martin UPS Danbury, CT (203) 731-6324 nrd1pxm@nrd.ups.com
Real Life Home: Kent, WA (206) 631-5478
SCCA '83 Mazda RX7 #24 ITA '91 ragtop WD9HAD

Date: Wed, 20 Jul 1994 21:59:50 GMT

From: ihnp4.ucsd.edu!library.ucla.edu!news.ucdavis.edu!dale.ucdavis.edu!
szhall@network.ucsd.edu
Subject: Can you use a BAYCOMM with a TRS-102??
To: ham-digital@ucsd.edu

One time I used a BAYCOMM with a PC and had very good luck..Now I am
thinking about buying one for my TRS-102 for portable packet set up..What
do you think..Jeff

Date: Thu, 21 Jul 1994 13:31:54 GMT
From: ihnp4.ucsd.edu!swrinde!emory!rsiatl!ke4zv!gary@network.ucsd.edu
Subject: Can you use a BAYCOMM with a TRS-102??
To: ham-digital@ucsd.edu

In article <Ct9EFr.1n2@ucdavis.edu> szhall@dale.ucdavis.edu () writes:
> One time I used a BAYCOMM with a PC and had very good luck..Now I am
>thinking about buying one for my TRS-102 for portable packet set up..What
>do you think..Jeff

I think you're going to have to write the low level TNC emulator
software yourself in Z80 assembler. The Baycom program is written
for the PC and won't work on the TRS-102's Z80 architecture.
Remember, the Baycom system is a total bit bang system with the
hardware being just a zero crossing detector. The USART function
is done in software, as is the AX25 protocol.

Unless I'm totally out of touch, no one has ported that software
to the TRS-100/102 series of notebooks.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 21 Jul 94 20:03:50 GMT
From: news-mail-gateway@ucsd.edu
Subject: Current Capabilities of Packet?
To: ham-digital@ucsd.edu

Chris May writes:

> I was wondering if anyone could provide me with some information
> detailing the different price/performance options available for an amateur

> radio setup capable of communicating with the internet via packet
> radio.
[stuff deleted]

The cost ratio between internet access by wire and internet access by amateur radio (for similar services) is about 1000:1 where amateur radio costs about \$1000 for the service you'd get for \$1 via telephone.

Maybe I exaggerate, but only a bit :-)

One does not get an amateur radio license in order to save money, except in the very rarest of situations. Maybe you have a friend or spouse in Europe and you like to talk, a LOT. Or this friend is in the middle of nowhere. MAYBE then you could save money via amateur radio if you didn't mind a couple of hundred listeners to your conversations.

One chooses to become an amateur radio operator because it is "RADIO" and radio is magic, and magic is fun in and of itself. There are areas available in amateur radio that do not exist on the internet, and vice versa. For example, last week I copied packet radio data from the Space Shuttle. Was so suprised that I wasn't ready on the transmit frequency to make a connection before the shuttle was over the horizon. You don't do that on the internet. Total equipment cost \$500 new, \$300 or so used. Five or six minutes at 1200 baud. Of course I still have the equipment, and didn't buy it expressly for the purpose of talking to the space shuttle, its just my normal packet station.

Locally we can get unlimited dial-up access to the internet for \$30/month at 28.8k bps. For amateur radio to access the wired internet there has to be a connection somewhere on the radio net, and somebody has to pay for it. Furthermore the content carried on the internet is not regulated and monitored the way amateur radio is. Amateur radio has strict non-commercial and decency regulations. Free speech is not a right on amateur radio.

I routinely post Ham-Digital Digest on the local PBBS, but not before I review it and delete advertisements for "Thigh Creame" and such.

73, David Kelly N4HHE
dkelly@nebula.tbe.com

Date: Thu, 21 Jul 1994 08:24:31 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!
newsxfer.itd.umich.edu!nntp.cs.ubc.ca!fs1.ee.ubc.ca!bogomips!
jmorriso@network.ucsd.edu
Subject: Has anyone done packet using Coherent?
To: ham-digital@ucsd.edu

In article <30jg8t\$au1@mercury.mcs.com>, James W. Barr <jbarr@MCS.COM> wrote:
>I just installed the UNIX variant Coherent on my PC, and was wondering if
>anyone out there has been able to use it for packet? I run JNOS in the
>DOS world, and enjoy being able to use TCP/IP. It would be way cool to
>be able to do this from Coherent.

There is a UNIX version of JNOS, it's portable and I'm sure it will compile
for Coherent.

> I know that there are AX.25 drivers
>available for Linux. Are they usable with Coherent?

definitely not. Coherent doesn't even have kernel TCP/IP.

>Is there a version
>of JNOS available for Coherent? Basically, my question is that I have
>Coherent installed, so how can I integrate Packet Radio with it?

JNOS or wampes for UNIX. I know it's out there, but I don't use it.
Try looking for it on ftp.ucsd.edu.

>
>73!
>
>-Jim, N9ONL
>
>--
>James W. Barr, N9ONL | Using GEOS for Amateur Packet Radio
>jbarr@mcs.com | in Buffalo Grove, IL, USA!

--

BogoMIPS Research Labs -- bogosity research & simulation -- VE7JPM --
jmorriso@bogomips.ee.ubc.ca ve7jpm@ve7jpm.ampr.org jmorriso@rflab.ee.ubc.ca

Date: Thu, 21 Jul 94 09:03:29 CEST
From: EU.net!i2unix!news@uunet.uu.net
Subject: Need Mods For Tm-732
To: ham-digital@ucsd.edu

I'm Looking for best mods for Kenwood TM-732.

73. de Sal, IW0DHH
[

[44.134.32.120]

Date: 20 Jul 94 23:52:22 GMT
From: news.claremont.edu!mtigate!mti.com!hunley@uunet.uu.net
Subject: Packet Ragchews on HF
To: ham-digital@ucsd.edu

I'm relatively new to packet, so pardon the "newbieism" of this question, but I'm stumped:

I have a nice HF packet setup: a Yaesu FT-890AT driving a Cushcraft R7, talking to a KAM-Plus. I hear lots of packet-sounding stuff on HF, but when I tune to it, the KAM seems to decode mostly RR packets, with a few C and DM packets. The very rare I packet seems to contain ASCII garbage, like two BBSs exchanging binary files or something.

When I try to connect to one of these stations, I either get no connection at all, a connect followed by an immediate disconnect, or a message to the effect that "only members are allowed on this node." I have yet to make my first successful QSO using packet.

Now if I want to talk to a BBS, I don't need to use a radio for that. There are plenty of BBSs within a local phone call of my house. I was kinda hoping to make the same kind of QSOs using packet that I was making using CW or voice.

Is there something I'm doing fundamentally wrong, or is there no good old "CQ CQ CQ - Tnx fer call OM, name is John..." type activity on HF? Are there certain subbands where the ragchewers and DXers go, that I just haven't found yet? I know that most packet is on VHF, but I don't have a VHF rig, and even if I did, I don't particularly want to limit my QSOs to stations within a 10-mile radius (yes, I've heard of digipeaters).

--

John Hunley, KN6XZ
Sr. Software Engineer
Micro Technology, Inc.
4905 E. La Palma Ave.
Anaheim, CA 92807

Email: hunley@mti.com
UUCP: mti.com!hunley
Voice: (714) 693-2613
FAX: (714) 970-5924

Date: Thu, 21 Jul 1994 13:46:57 GMT
From: ihnp4.ucsd.edu!swrinde!emory!rsiat1!ke4zv!gary@network.ucsd.edu

Subject: Packet Ragchews on HF
To: ham-digital@ucsd.edu

In article <3416@mtigate.mti.com> hunley@mti.com (John Hunley) writes:
>I'm relatively new to packet, so pardon the "newbieism" of this
>question, but I'm stumped:
>

>I have a nice HF packet setup: a Yaesu FT-890AT driving a Cushcraft
>R7, talking to a KAM-Plus. I hear lots of packet-sounding stuff on
>HF, but when I tune to it, the KAM seems to decode mostly RR packets,
>with a few C and DM packets. The very rare I packet seems to contain
>ASCII garbage, like two BBSs exchanging binary files or something.

Most HF forwarding is now done with compressed files, much the
way Usenet is distributed via uucp links. This saves time and
bandwidth moving the traffic.

>When I try to connect to one of these stations, I either get no
>connection at all, a connect followed by an immediate disconnect,
>or a message to the effect that "only members are allowed on this
>node." I have yet to make my first successful QSO using packet.

The stations in the forwarding network don't allow outside stations
to connect. You're supposed to inject and remove traffic from the
system at your local VHF end node. Allowing random connections would
totally hose the automatic routing software.

>Now if I want to talk to a BBS, I don't need to use a radio for
>that. There are plenty of BBSs within a local phone call of my
>house. I was kinda hoping to make the same kind of QSOs using packet
>that I was making using CW or voice.
>

>Is there something I'm doing fundamentally wrong, or is there no good
>old "CQ CQ CQ - Tnx fer call OM, name is John..." type activity on
>HF? Are there certain subbands where the ragchewers and DXers go,
>that I just haven't found yet? I know that most packet is on VHF,
>but I don't have a VHF rig, and even if I did, I don't particularly
>want to limit my QSOs to stations within a 10-mile radius (yes, I've
>heard of digipeaters).

There is ragchewing on HF, but frankly, packet is ill suited to such
use. You'll find what packet ragchewers there are down with the RTTY
and AMTOR ragchew operations. AMTOR is best for the type of operating
you want to do. Put out a FEC CQ, including your selcall, and wait for
someone to link with you in ARQ mode, or link with someone calling CQ.
If you don't mind garbled print, you also might try your hand at RTTY.
Just send a string of RYRYRYRY characters to allow your signal to be
tuned, and then follow with a CQ. If you do try packet ragchewing,

remember to keep your packets short. A maximum length of 40 characters is a good value.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: Thu, 21 Jul 1994 16:21:28 GMT
From: hearst.acc.Virginia.EDU!cabell.vcu.edu!jwill@uunet.uu.net
Subject: Poor Man's Packet FTP site?
To: ham-digital@ucsd.edu

I *know* this has to be a FAQ... but I have been all through the Simtel archives and oak.oakland.edu looking for documentation on how to build one of those "Baycomm" type modems... Could somebody steer me to a FTP Site / filename?

I got the .PCX of the schematics and want to build one of these for a custom portable application. I will need one that is very small and with custom connectors. So, I figure the best way of doing it is homebrew and try to download appropriate software.

Robert S. Williams
KD4ZPH

Date: 21 Jul 1994 15:02:36 -0400
From: news.pipeline.com!not-for-mail@uunet.uu.net
Subject: RADIO BLOOD - EMPLOYMENT
To: ham-digital@ucsd.edu

QRO Telecom Provider, NY and former Soviet Union searching for in-the-blood radio man, primarily for specification of customized radio systems. Position would be NY with frequent travel to former SU. (Reciprocal license, Icom-781, included!)

Requirements:

- * deep background and practical on VHF/UHF, repeaters, antennas
- * hands-on knowledge of equipment, alternatives and vendors

- * packet, digilexer and Internet a plus
- * HF antennas a plus
- * microwave a plus
- * cellular experience a plus
- * PC skills including diagramming and presenting to staff and customers
- * good health, passport, tolerance of QRM

Company operates numerous satellite gateways and remote sites;
C/Ku experience a plus but not necessary.

Energy, initiative and ability to assimilate, organize and communicate to multi-national staff and clients essential.
Radio Blood --- DC to light --- is essential.

Please pass the word. It's a good gig.

N2KS

Date: 21 Jul 1994 02:43:32 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!agate!msuinfo!netnews.upenn.edu!
news.drexel.edu!dunx1.ocs.drexel.edu!DUVM.OCS.DREXEL.EDU!XTL00014@network.ucsd.edu
Subject: TNX for Baycomm info
To: ham-digital@ucsd.edu

Thanks for the Baycomm info, everybody, but I think I'll go with the
KPC-3. It'll speed up things with the system. A KPC-3 and the used
ICOM Ic-25A should make a good combination. Any comments on the KPC-3?

73 es TNX de N3RCS, xtl00014@duvm.ocs.drexel.edu

Date: 21 Jul 1994 10:13:11 GMT
From: library.ucla.edu!europa.eng.gtefsd.com!newsxfer.itd.umich.edu!
zip.eecs.umich.edu!yeshua.marcam.com!charnel.ecst.csuchico.edu!olivea!
inews.intel.com!ilx018.iil.intel.com!@ihnp4.ucsd.edu
Subject: TS-50S function keys
To: ham-digital@ucsd.edu

In article <hawley.774126634@aries>, hawley@aries.scs.uiuc.edu (Chuck Hawley)
writes:

|> david@primenet.com (David Dodell) writes:
|>
|> >I have been trying to get documentation on how the function keys on a
|> >TS-50S are emulated from the microphone. While the manual gives

|> >instructions on programming the function keys, the manual does not give
|> >any idea how to duplicate a depression of a function key from the wiring
|> >diagram.
|>

One day, I actually took the mike apart to figure this out.
Two of the buttons ground the UP and DOWN lines through 100K resistors,
and the other two buttons do the same through 20K resistors. (I
may not be remembering the exact values correctly).

To find out all the details, just hook an ohmmeter from the UP/DOWN
connector pins to ground, and push the buttons.

Doug Braun (4X/N10WU)

```
-----  
Email:          dbraun@inside.intel.com  
Intel Mail:     IDC1-41  
iNet:          8-435-5069           Long Distance: 011-972-4-655069  
Fax:           8-435-5999           Long Distance: 011-972-4-655999  
Snail Mail:     US:                 Other:  
                PO Box 311           Intel Israel, Ltd.  
                Mendham, NJ 07945    IDC-42  
                                      Matam Scientific Center  
                                      Haifa, Israel 31015  
-----
```

```
-----  
Date: Thu, 21 Jul 1994 13:25:02 GMT  
From: ihnp4.ucsd.edu!swrinde!emory!rsiatl!ke4zv!gary@network.ucsd.edu  
Subject: Wireless modem with GMSK and PLL  
To: ham-digital@ucsd.edu
```

In article <Ct89qv.61x@inter.NL.net> denouden@inter.NL.net (J. den Ouden) writes:

>I'm trying to design a wireless modem for 900 MHz.

>

>The 900 MHz is synthesized by a VCO. Spectral purity and RF carrier
>frequency stability demand a PLL for the VCO control voltage.

>

>For data modulation I've decided upon GMSK. The GMSK signal frequency
>modulates the RF signal by superimposing it on the VCO control voltage.

>

>The problem with this setup is that for low BER the RF modulation/
>demodulation response should go down to a few Hz, which is impossible
>because the PLL would try to correct any RF frequency deviation at this
>modulation frequency.

>

>How is this generally solved? Some data books mention two point
>modulation. How does this work?
>
>Hints, references or answers are highly appreciated.

There are several workable approaches to this problem. The most straight forward approach is to use a heterodyne system. The modulation is impressed on a crystal VXO at an intermediate frequency, and that is mixed with the synthesized VCO to get the output frequency. Since the PLL loop is only around the heterodyne oscillator, it won't subtract the modulation.

Another approach is to use a data randomizer, or scrambler, to insure there are no near DC components to the modulation. This is a common approach, and the one taken in the GRAPES 56 kb RF modem.

Gary

```
--  
Gary Coffman KE4ZV          | You make it,      | gatech!wa4mei!ke4zv!gary  
Destructive Testing Systems | we break it.     | uunet!rsiatl!ke4zv!gary  
534 Shannon Way           | Guaranteed!      | emory!kd4nc!ke4zv!gary  
Lawrenceville, GA 30244   |                  |
```

Date: Thu, 21 Jul 1994 13:12:56 GMT
From: ihnp4.ucsd.edu!swrinde!emory!rsiatl!ke4zv!gary@network.ucsd.edu
To: ham-digital@ucsd.edu

References <wyn.50.2E2A856A@ornl.gov>, <1994Jul19.125835.17582@ke4zv.atl.ga.us>, <wyn.56.2E2D1CE3@ornl.gov>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: One-way automated digital=bad

In article <wyn.56.2E2D1CE3@ornl.gov> wyn@ornl.gov (C. C. Wynn) writes:
>In article <1994Jul19.125835.17582@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>>Yes you certainly do. That's a very good reason for practicing strong
>>channel discipline on HF digital. Just because your VFO tunes in 10 Hz
>>steps doesn't mean you should operate on just any one of those steps.
>>We need a bandplan with recommended channelization.
>
>>Gary
>
>Ahhh, but there is the rub! Everyone gets all bent out of shape if W1AW comes
>up on, say 7.080 Mhz, and blows your QSO away, acting like they own a channel.
>(Read the comments posted here recently.) But, this is going to be perfectly

>acceptable for automatic control data stations?? Kind of hypocritical
>wouldn't you say?

No. The problem with W1AW is that they *don't listen* before transmitting. What channelization buys is the possibility of implementing a much more robust method of automatically detecting other activity before transmitting. With no channelization, there are an infinite number of center frequencies where a signal may be. With channelization, that number is reduced to a manageable number that can be checked, manually or automatically, before transmitting. If interference *does* still occur because of odd propagation effects, it will be limited to the users of that one channel, not to two different sets of users as could happen with no standard channel spacing.

Standard channelization is the norm in all services except the amateur service, and is even accepted there for most VHF/UHF activity. There's a very good reason why everyone else has gone to standard channels, and that reason is lessened mutual interference. Amateurs are being backward in refusing to acknowledge the advantages of channelization as a tool for interference control.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: (null)

From: (null)

"This Disc contains Hacking, Phreaking, Tone Box Information, Anarchy, Subculture, Magic, Internet & Computer Security Secrets, Bomb Plans, FBI & Police Net Files, Virus Code, Sick & Twisted Graphics, UFO, Occult, even HAM RADIO Files, plus much, much more!"

^^^ ^^^^

End of Ham-Digital Digest V94 #245
